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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/729,971	12/09/2003	Yan-Fei Liu	14545	2206

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EXAMINER

BERHANE, ADOLF D

ART UNIT	PAPER NUMBER
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2838

DATE MAILED: 02/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No. 10/729,971	Applicant(s) LIU ET AL.	
	Examiner Adolf Berhane	Art Unit 2838	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-66 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-66 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

2. Claims 3-6, and 9-11 are rejected under 35 U.S.C. 102(a) as being anticipated by Wei et al. (6,757,184).

Wei et al. disclose a step-down buck converter with full bridge circuit in Figs. 2 and 8. An input for accepting the DC voltage (V_{in}), the input having a first voltage input and a second voltage input, an output for outputting a converted DC voltage (V_{out}), the output having a first voltage output and a second voltage output, a high side circuit (20, 22) including a first primary winding (W1) of a first transformer (M) and an auxiliary section (Q1, Q2, Q3, Q4), the high side circuit connected between the first voltage input and the first voltage output, a rectifier circuit (28, 30) having a first secondary winding (W2) of the first transformer (M), the rectifier circuit connected between the first voltage output and the second voltage output, and an output capacitor (C3) connected between the first voltage output and the second voltage output and across the rectifier circuit (28, 30).

3. Claims 1-33, 46 and 47 are rejected under 35 U.S.C. 102(a) as being anticipated by Xu et al. (2004/0246748).

Xu et al. disclose a bridge buck converter with self-driven synchronous rectifiers in Figs. 2, 4, 8 and 9. An input for accepting the DC voltage (V_{in}), the input having a first voltage input and a second voltage input, an output for outputting a converted DC voltage (V_{out}), the output having a first voltage output and a second voltage output, a high side circuit (20, 22) including a first primary winding (W1) of a first transformer (M) and an auxiliary section (Q1, Q2, Q3, Q4), the high side circuit connected between the first voltage input and the first voltage output, a rectifier circuit (28, 30) having a first secondary winding (W2) of the first transformer (M), the rectifier circuit connected between the first voltage output and the second voltage output, and an output capacitor (C3) connected between the first voltage output and the second voltage output and across the rectifier circuit (28, 30). Fig. 9 discloses rectifier circuit with first and second secondary windings (W2, W4).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 36-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wei et al.

Wei et al. discloses the claimed invention except for the range of values. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the optimum range, since it has been held that where the general conditions of a claim are

disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

6. Claims 36-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Xu et al. (2004/0246748).

Xu et al. discloses the claimed invention except for the range of values. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the optimum range, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Allowable Subject Matter

7. Claims 34 and 35 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

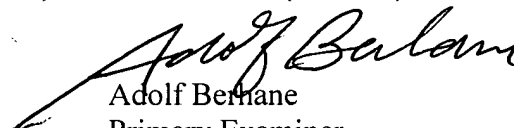
Response to Arguments

8. Applicant's arguments filed 1/24/06 have been fully considered but they are not persuasive. Applicant's attention is directed to Wei et al. reference Fig. 2 which shows one and only one high side circuit. The high side circuit (20, 22) has a single input though they appear to have two separate points but are connected to the same output point and input points.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Adolf Berhane whose telephone number is 571-272-2077. The examiner can normally be reached on Monday- Friday 8 AM to 6 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Sherry can be reached on 571-272-2084. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Adolf Bernane
Primary Examiner
Art Unit 2838